## ABSTRACT

Method and apparatus for determining a transmission configuration for a dedicated channel in a wireless communication system. In one embodiment, an optimum configuration is determined based on minimizing Peak-to-Average Ratio (PAR) of the channel. The configuration is defined as a transmission pair of transmission branch and spreading code. The transmission branch may be the In-Phase (I) branch or the Quadrature (Q) branch. PAR analysis may be performed off-line to determine the optimum configuration. In operation, if the spreading code of the optimum configuration is used by another channel, the next best optimum code is used.